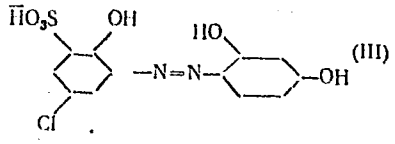
The substituents are shown in Table 1, and their positions in formula II are denoted by an asterisk (positions 3 and 5). Fluorescence of solutions containing 0.2 ml of 0.01% of acetone solution of the reagent in 10 ml of test solution was measured at pH 3.5 using UM-2 monochromator and FEU-19 photomultiplier. The FUS-3 mercury-quartz lamp was used as the source. The fluorescence curves are shown in Fig. 1 and 2. It was found that the best reagent for luminescent determination of Ga is compound 3, which is manufactured by chemical industry under the name "Lumo-gallion IREA" (III). Compound 6 forms with Ga products of higher luminescence in isoamyl alcohol, but nonluminescent in aqueous solutions; compound III forms luminescent Ga complexes in both cases.



(III)

Table 1. Characteristics of fluorescent reactions of Ga with azo dyes, obtained from resorcinol (formula II). (a) Serial Nr; (b) substituent in position (formula II); (c) sensitivity (γ Ga in 5 ml); (d) in aqueous solution; (e) in isoamyl alcohol.

a	b		c	
	3	5	d	e
1	H	H	0,4	0,05
2	H	Cl	0,6	0,1
3	SO_3H	Cl	0,01	0,005
4	NO_2	Cl	—*	—
5	H	NO_2	—	0,01
6	SO_3H	NO_2	—	0,003
7	NO_2	NO_2	—	—
8	Cl	NO_2	—	0,1
9	H	SO_3H	0,05	—
10	SO_3H	SO_3H	0,02	—
11	NO_2	SO_3H	—	—
12	Cl	SO_3H	0,1	—

*dash denotes the absence of fluorescence with amounts of Ga less than 1.0γ.

Concerning a New Reagent for Luminescent Determination of Gallium

77747
SOV/75-15-1-9/29

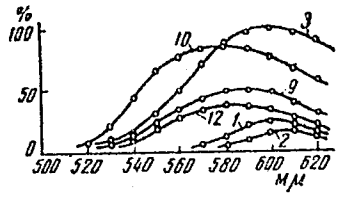


Fig. 1. Fluorescence spectra of aqueous solutions of gallium compounds with trihydroxyazo compounds. The curve's Nrs correspond to the compound Nrs in Table 1. On the ordinate are shown the intensities of fluorescence in comparison with fluorescence of compound 3 at 600 mμ, taken as 100%.

Card 4/8

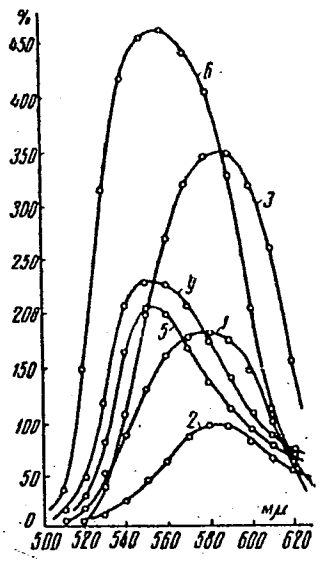


Fig. 2. Fluorescence spectra of compounds of gallium with trihydroxy-azo compounds in isoamyl alcohol. The curve's Nrs correspond to the compound Nrs in Table 1. The fluorescence intensity is shown in the same scale as in Fig. 1.

Concerning a New Reagent for Luminescent Determination of Gallium

77747
SOV/75-15-1-9/29

Luminescent determination of Ga in Se was made using 2,2',4'-trihydroxy-5-chloro-1,1'-azobenzene-3-sulfonic acid (III). The results are shown in Table 2. Synthesis of the investigated compounds was made with the participation of G. B. Zavarykhina and N. S. Syzoyeva. There are 2 tables; 2 figures; and 20 references, 2 U.S., 2 U.K., 1 Czechoslovak, 3 German, 1 French, 11 Soviet. The U.S. and U.K. references are: Donald By, Freeman, C., White, Ch. E., J. Amer. Chem. Soc. 78, 2678 (1956); Charlot, G., Analyt. Chem. Acta 1, 218 (1947); Weissler, A.,

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Concerning a New Reagent for Luminescent Determination of Gallium

77747
SOV/75-15-1-9/29

Table 2. Determination of Ga in Se. (a) sample of Se (g); (b) Ga taken (γ); (c) Ga found (γ in 5 ml); (d) content (%); (e) calculated; (f) found; (g) error (%).

(a)	(b)	(c)	(d) (e)	(d) (f)	(g)
0,106	0,000	0,003	--	$1,1 \cdot 10^{-3}$	—
0,114	0,05	0,018	$5,5 \cdot 10^{-3}$	$6,3 \cdot 10^{-3}$	+15
0,122	0,05	0,017	$5,3 \cdot 10^{-3}$	$5,6 \cdot 10^{-3}$	+ 6
0,104	0,10	0,026	$1,1 \cdot 10^{-2}$	$1,0 \cdot 10^{-2}$	— 9
0,094	0,10	0,024	$1,2 \cdot 10^{-2}$	$1,02 \cdot 10^{-2}$	—15
0,124	0,20	0,048	$1,7 \cdot 10^{-2}$	$1,5 \cdot 10^{-2}$	—12
0,111	0,20	0,050	$1,9 \cdot 10^{-2}$	$1,9 \cdot 10^{-2}$	0

Card 7/8

Concerning a New Reagent for Luminescent Determination of Gallium

77747
SOV/75-15-1-9/29

White, Ch. E., Ind. Eng. Chem. Anal. Ed. 18, 530 (1946); Radley, J. A., Analyst 68, 369 (1943).

ASSOCIATION: All-Union Scientific Research Institute of Chemical Reagents, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov, Moskva)

SUBMITTED: June 27, 1958

Card 8/8

BOZHEVOL'NOV, Ye.A.

Causes of the elimination of internal nonemissive transitions in organic molecules in connection with the formation of inner complex compounds with cations. Izv.AN SSSR 24 no.6:762-766 Je '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.
(Complex compounds--Spectra)

TARTAKOVSKAYA, A.S.; BOZHEVOL'NOV, Ye.A.

Luminescence characteristics of 6-dimethylamino-1, 2-benzophenazine.
Zhur.VKHO 6 no.4:475-476 '61. (MIRA 14:7)

1. Zavod khimicheskikh reaktivov imeni Voykova i Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.
(Benzophenazine—Spectra)

BOZHEVOL'NOV, Ye.A.; KARAKOVSKAYA, O.A.

Chromatographic determination of an iron microimpurity in high-purity substances. Zav.lab.27 no.1:11-12 '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov.
(Microchemistry) (Iron--Analysis)

BOZHEVOL'NOV, Ya.A.

Development of the luminescent method of analysis of inorganic substances (survey). Zav.lab. 27 no.9:1051-1057 '61. (MIRA 14:9)
(Luminescence) (Chemistry, Analytical)

BOZHEVOL'NOV, Ye.A., kand.khimicheskikh nauk; LASTOVSKIY, R.P., doktor khimicheskikh nauk, prof.

Congress on Analytical Chemistry. Zav.lab. 27 no.9:1173-1174 '61. (MIRA 14:9)

(Chemistry, Analytical--Congresses)

S/051/62/013/003/005/012
E202/E435

AUTHORS: Bozhevol'nov, Ye.A., Serebryakova, G.V.

TITLE: Fluorescence of intracomplex cationic compounds

PERIODICAL: Optika i spektroskopiya, v.13, no.3, 1962, 390-395

TEXT: Following the work of D.E.Freeman and Ch.E.White (J. Amer. Chem. Soc., 78, 1956, 2678) and Z. Holzbecher (Chem. list., 49, 1955, 684), the authors studied absorption and fluorescence spectra of intracomplex compounds paying particular attention to the amount of Stokes shift, differentiating the fraction of the scattered energy from the energy of the absorbed quantum. 8-hydroxyquinoline (I) and salicylal-o-aminophenol (II) were chosen as exemplifying the rigid and non-rigid structures respectively. Of the fluorescing intracomplex forming cations, Al^{+++}, Ga^{+++}, In^{+++} and Zn^{++} were studied. The nonfluorescing cations were represented by Cu^{++}. The intracomplex compounds of the above cations were prepared in glycol and phthalic buffer solutions with optimum pH adjusted for each cation. The metallic complexes with (I) were extracted with chloroform and those with (II) were extracted with isoamyl alcohol. The absorption

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spectra were taken on a Zeiss VSU-1 spectrophotometer and fluorescence spectra by means of a monochromator УМ-2 (UM-2) using a ФЭУ-19 (FEU-19M) photomultiplier. Details of calibration were given earlier (V.Sb. "Veshchestva vysokoy chistoty i reaktivy" (Symp. "High purity substances and reagents") Goskhimizdat, M., 1959, 124). Fluorescence was excited by the 366 mμ Hg line and also by the 405 mμ Hg line. Plots of absorption and fluorescence spectra are given for the Al, Ga, In, Zn and Cu compounds of (I) and (II) as well as the absorption spectrum of the compound of (II) with helium. The wavelengths of the maxima of the above spectra and the magnitudes of Stokes shift $\Delta\nu$ are tabulated. The relations found between $\Delta\nu$ and e^2/r confirmed earlier work by W.E.Ohnesorge and L.B.Rogers (Spectrochim. Acta, 15, 1958, 27) and may be of use in searching for new luminescent reagents. It is concluded that fluorescence may be expected only in those complex compounds of copper in which the maximum of fluorescence spectrum is approximately between 450 and 500 mμ. There are 5 figures and 2 tables.

SUBMITTED: June 21, 1961

Card 2/2

BOZHEVOL'NOV, Ye.A.; KREYNGOL'D, S.U.

Fluorescence complexometric determination of trace amounts of calcium. Zhur.anal.khim. 17 no.5:560-564 Ag '62. (MIRA 16:3)

1. All-Union Scientific Research Institute of Chemical Reagents, Moscow.
(Calcium--Analysis) (Complex compounds) (Fluorescence)

S/075/62/017/005/004/007
I033/1233

AUTHORS: Golovina, A.P., Alimarin, I.P., Bozhevol'nov, Ye. A. and Agasyan, L.B.

TITLE: Datiscine - a new fluorimetric reagent for zirconium

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no. 5, 1962, 591-594

TEXT: Datiscine (3,5,7,2' - tetraoxyflavone glucoside) produces with a number of cations soluble compounds which fluoresce upon irradiation with ultraviolet rays. In the case of Zr maximal fluorescence is observed in a 6 N HCl medium at 520 mμ upon irradiation at 388 mμ. A 100 fold excess of reagent is permissible. Intensity of fluorescence reaches a constant value

S/075/62/017/005/004/007
I033/I233

Datiscine - a new ....

after 15-20 min. It decreases with increase of ethanol concentration. Intensity is proportional to Zr concentration in the range of 0.005 - 3 ml. This makes datiscine a most sensitive reagent for Zr. In the 1.5 - 6 N HCl acidity range there is no interference from any amount of Mg and Zn, 100,000-fold excess of Al and 100-fold excesses of Ag, Cd, Mn(II), Cu(II), Pb, Hg(II), Be, Co(II), In, Cr(III), Fe(II), Ta(V), V(V), Ni(II), Nb(V), W(VI), Y, U(VI), Ce(III), and La. In 6 N HCl, 10-fold excesses of Fe(III), Mo(VI), Ti(VI), Sb(V), Th and Ga do not interefere. This method was used for determination of Zr in aluminum and magnesium alloys. There are 2 figures and 4 tables.

Card 2/3

S/075/62/017/005/004/007
I053/I233

Datiscine - a new...

ASSOCIATION: Moskovskiy gosudarstvenny universitet im. M.V. Lomonosova i Vsesoyuznyy nauchno- issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (Moscow State University im M.V. Lomonosov and All-Union Scientific Research Institute of Chemical Reagents and High-Purity Chemical Substances) Moscow

SUBMITTED: June 28, 1961

Card 3/3

SHCHERBOV, D.P.; BOZHEVOL'NOV, Ye.A.

Soviet-Czechoslovak Exhibition of Chemical Reagents and Isotopes in Leningrad. Zav.lab. 28 no.6:766-767 '62. (MIRA 15:5)

(Czechoslovakia--Chemical tests and reagents)
(Czechoslovakia--Radioisotopes)
(Leningrad--Exhibitions)

BOZHEVOL'NOV, Ye.A. (Moscow, Bogorodskiy val.d.3); SEREBRYAKOVA, G.V. (Moscow, Bogorodskiy val.d.3); YANISHEVSKAYA, V.M. (Moscow, Bogorodskiy val.d.3); KREYNGOL'D, S.U. (Moscow, Bogorodskiy val.d.3)

Use of luminescence analysis for determining inorganic contaminations. Acta chimica Hung 32 no.2:199-206 '62.

1. Vsesoyuznyy nauchno-issledovatelskiy institut khimicheskikh reaktivov.

S/020/63/148/002/025/037
B189/B101

AUTHORS: Bozhevol'nov, Ye. A., Solov'yev, Ye. A.

TITLE: Sensitivity increase of the luminescence reactions to cations with organic reagents by freezing the solutions

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 335-337

TEXT: A description is given of the determination of gallium and niobium with 2,2',4'-trihydroxy-5-chloro-(1-azo-1')-benzene-3-sulfonic acid (I) and of magnesium with 2-hydroxy-3-sulfo-5-chlorobenzene-(1-azo-1')-2'-hydroxynaphthalene (II) at nitrogen temperature. The fluorescence excited by UV light was measured with a spectrofluorometer. At a 0.0004% concentration of I and with a gallium content of the solution of 4 μg/ml, pH = 2.2, the luminescence of the I-Ga complex at nitrogen temperature was ten times more intense than at room temperature. The adsorption maximum was shifted from 580 mμ at room temperature to 546 mμ at nitrogen temperature. At the same concentration of I as mentioned above and with an indium content in the solution of 2 μg/ml, pH = 5.8, the luminescence of the I-In complex at nitrogen temperature was 100 times more intense than at room temperature.
Card 1/2

Sensitivity increase of ...

The adsorption maximum was shifted from 610 mμ to 565 mμ. At a concentration of II of 0.0012%, with an Mg content of the solution of 200 μg/ml, pH - 11.0, the luminescence of the II-Mg complex at nitrogen temperature increased to more than 100 times the luminescence at room temperature. The adsorption maximum was shifted from 613 to 577 mμ. The use of low temperatures made it possible to increase the accuracy of Nb determination from 0.5 to 0.005 μg/ml, that of Mg from 0.04 to 0.002 μg/ml. There are 4 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (All-Union Scientific Research Institute of Chemical Reagents and High-purified Chemical Substances)

PRESENTED: August 2, 1962, by A. P. Vinogradov, Academician

SUBMITTED: July 29, 1962

Card 2/2

SEREBRYAKOVA, G.V.; LUKIN, A.M.; BOZHEVOL'NOV, Ye.A.

Luminescent properties of azo compounds based on barbituric acid. New reagent for magnesium. Zhur.anal. khim. 18 no.6:706-711 Je '63. (MIRA 16:9)

1. All-Union Scientific-Research Institute of Chemical Reagents and Chemical Substances of Special Purity, Moscow.
(Azo compounds) (Barbituric acid) (Magnesium—Analysis)

KREYNGOL'D, S.U.; BOZHEVOL'NOV, Ye.A.; LASTOVSKIY, R.P.; SIDORENKO, V.V.

Determination of iron in water, acids, and salts by a kinetic method with the use of stilbene complexon. Zhur. anal. khim. 18 no.11:1356-1361 N '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobochistykh khimicheskikh veshchestv, Moskva.

KREYNGOL'D, S.U.; BOZHEVOL'NOV, Ye.A.

New luminescent catalytic reaction for determining copper.
Zhur.anal.khim. 18 no.8:942-949 Ag '63. (MIRA 16:12)

1. All-Union Scientific-Research Institute of Chemical Reagents and Substances of Special Purity, Moscow.

BOZHEVOL'NOV, Ye.A.; KREYNGOL'D, S.U.; LASTOVSKIY, R.P.; SIDORENKO, V.V.

Use of luminescent reagents in the kinetic method of analysis. Dokl. AN SSSR 153 no.1:97-100 N '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv. Predstavleno akademikom A.P. Vinogradovym.

BOZHEVOL'NOV, Ye. A.

Determination of antimony in sulfuric and hydrofluoric acids by means of $C_aO(Sb)$ crystal phosphor. Metod. anal. khim.reak. i prepar. no. 4:110-113 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye. A.; SEREBRYAKOVA, G. V.

Determination of zinc in acids and potassium-sodium tartrate with 8-(p-toluenesulfonylamino)-quinoline. Metod. anal. khim.reak. i prepar. no. 4:120-125 '62.

89-92

Determination of magnesium in acids and calcium tartrate by "lumomagnezon" of the Institute of Chemical Reagents. Ibid.:~~100-107~~. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye. A.; KREYNGOL'D, S. U.

Determination of calcium in water, acids, and salts by means of fluorescein-complexon. Metod. anal. khim.reak. i prepar. no. 4:85-88 '62.

Determination of copper in water and acids with lumocupferron. Ibid.:96-99.

Determination of sulfates in water, acids, and salts with fluorescein-complexon. Ibid.:131-133. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye. A.

Luminescence and its basic regularities. Metod. anal. khim. reak. i prepar. no. 4:7-25 '62.

Equipment for luminescence analysis. Ibid.:26-38.

Determination of aluminum with salicylal o-aminophenol in sodium acetate. Ibid.:46-49.

Determination of aluminum with salicylal o-aminophenol in water, acids, and hydrogen peroxide. Ibid.:49-53.

Determination of gallium in selenium lumogallion of the Institute of Chemical Reagents. Ibid.:72-75.

Determination of thallium in sodium iodide with rhodamine C. Ibid.:113-116. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye.A.; SOLOV'YEV, Ye.A.

Rapid method for determining lead. Zav.lab. 30 no.4:412-413 '64. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobochistykh khimicheskikh veshchestv.

KREYNGOL'D, S. U.; BOZHEVOL'NOV, Ye. A.

Determination of copper in water and acid with fluorescein-complexon. Metod. anal. khim. reak. i prepar. no. 4:100-107 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye. A.; SEREBRYAKOVA, G. V.

Experimental technique in determining the microquantities of substances. Metod. anal. khim.reak. i prepar. no. 4:39-45 '62.
(MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

L 39741-65 EWT(m)/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD

ACCESSION NR: AT5006725 S/3127/62/000/004/0072/0075

AUTHOR: Bozhevol'nov, Ye. A.

TITLE: The determination of gallium in selenium with Lyumogallion IREA

SOURCE: USSR, Gosudarstvennyy komitet po khimii. Metody analiza khimicheskikh reaktivov i preparatov, no. 4, 1962. Lyuminestsentnyye metody opredeleniya mikrokolichestv elementov, 72-75

TOPIC TAGS: gallium determination, selenium analysis, fluorescent analysis, gallium fluorescence, Lyumogallion IREA

ABSTRACT: This method for the determination of gallium is based on the ability of gallium (Ga^{+++}) to form complexes with 2,2',4'-trihydroxy-5-[illegible]-azobenzene-3-sulfonic acid (Lyumogallion IREA) at pH 1.7-4 which fluoresce [illegible] orange-red light. No such fluorescence appears in the absence of gallium. If the compounds formed are extracted with isoamyl alcohol, they will exhibit considerably stronger fluorescence. There is a linear relationship between the intensity of fluorescence and the gallium concentration (to 0.5 μg/5 ml) in th s pH interval for both aqueous and alcoholic solutions, and the sensitivity is h gh (1.10^{-5} - 1.10^{-4} % Ga, with a standard error of 15-20%). Interference is rare (the respective ions and concentrations are enumerated) in the pH range 2-3, except for

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L 39741-65
ACCESSION NR: AT5006725

aluminum which shows some fluorescence. If aluminum and gallium are present at a 1:1 ratio, the former's presence may be neglected in the pH range 1.7-3.5; for higher Al concentrations, the upper pH limit should be reduced to 2.2. The determination involves dissolving the selenium in nitric acid, which is then slowly evaporated; the residue is dissolved in water, buffered to pH 3, then mixed with the test solution and the Lyumogallion in acetone, and left to stand for about 1 hour. Fluorescence is measured at $\lambda = 580$ mμ. The formula for calculating the gallium content is given. At a Ga concentration below 5.10^{-5}%, an isoamyl alcohol extract is used for this determination. Orig. art. has: 1 formula.

ASSOCIATION: IREA

SUBMITTED: 00Oct61 ENCL: 00 SUB CODE: IC , GC

NO REF SOV: 005 OTHER: 003

Card 2/2

SEREBRYAKOVA, G. V.; BOZHEVOL'NOV, Ye. A.; GODLINA, G. S.

Determination of magnesium in water and acids with bissalicylidene-ethylenediamine. Metod. anal. khim.reak. i prepar. no. 4:92-95 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

SEREBRYAKOVA, G.V.; BOZHEVOL'NOV, Ye.A.; GODLINA, G.S.; LUKIN, A.M.

Bis-salicylal ethylenediamine, a luminescent reagent for the determination of magnesium. Trudy IREA no.25:9-16 '63. (MIRA 18:6)

BOZHEVOL'NOV, Ye.A.; KREYNGOL'D, S.U.

Use of fluorescein complexon in the analysis of cation traces.
Trudy IREA no.25:24-40 '63. (MIRA 18:6)

KARAKOVSKAYA, O.A.; BOZHEVOL'NOV, Ye.A.

Determination of an iron microimpurity in high-purity substances by the chromatographic method with o-phenanthroline. Trudy IREA no.25:317-320 '63. (MIRA 18:6)

KREYNGOL'D, S.U.; BOZHEVOL'NOV, Ye.A.

Analytical properties of florescein-complexon. Trudy IREA no.25: 358-373 '63. (MIRA 18:6)

KREYNGOL'D, S.U.; BOZHEVOL'NOV, Ye.A.; SEREBRYAKOVA, G.V.

Determination of the instability constant of a complex of 8-(p-toluenesulfonylamino)-quinoline with zinc. Trudy IREA no.25:422-426 '63. (MIRA 18:6)

L 39737-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD
ACCESSION NR: AT5006726 S/3127/62/000/004/0113/0116

AUTHOR: Bozhevol'nov, Ye. A.

TITLE: Determination of thallium in sodium iodide by rhodamine C

SOURCE: USSR, Gosudarstvennyy komitet po khimii. Metody analiza khimicheskikh reaktivov i preparatov, no. 4, 1962. Lyuminestsentnyye metody opredeleniya mikrokolichestv elementov, 113-116

TOPIC TAGS: thallium determination, fluorescent analysis, rhodamine C complex, sodium iodide complex, thallium fluorescence, sodium iodide analysis

ABSTRACT: Thallium in HCl solution will form a complex with rhodamine C which may be extracted with benzene and will give bright red fluorescence (maximal fluorescence at 590 mμ). The optimal conditions for this reaction are HCl [illegible] ratio 1:1, rhodamine C, 0.1 mg per 3 ml of the aqueous solution for the development of a luminescence with constant intensity. The stability of the complex extracted with benzene persists [illegible]. The sensitivity of the reaction is 0.1 μg per 2 ml benzene. The linear relationship between fluorescent intensity and thallium concentration is retained up to [illegible] μg per 2 ml solution. Upon removing thallium with manganese dioxide as the collector, no ion present in amounts below 25 μg will interfere with the thallium determination.

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L 39737-65

ACCESSION NR: AT5006726

tion except for iodine; this forms a complex with rhodamine C which fluoresces under the same conditions. Iodine was therefore removed first by 2-fold acid dissociation of NaI with sulfuric acid, roasting and melting of the salt precipitation of thallium from the aqueous salt solution with MnO_2, filtering it through glass wool and treating the precipitate on the glass wool further with HCl to remove traces of iodine. The procedure is described in detail and a formula for calculating the thallium content is given. This method is also suitable for determining thallium in chlorides, bromides, nitrates and sulfates of alkali and soluble alkaline earth metals. No acid dissociation of the salt is required in these cases. Orig. art. has: 1 table, 1 figure and 1 formula.

ASSOCIATION: IREA

SUBMITTED: 00Nov61 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 001 OTHER: 001

Card 2/2

GODLINA, G.S.; BOZHEVOL'NOV, Ye.A.; KREYNGOL'D, S.U.

Tetramercury fluorescein acetate. Met. poluch. khim. reak. i prepar. no.6:52-54 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

BOZHEVOL'NOV, Ye.A., kand.khimich. nauk

Advances of the luminescence analysis of inorganic substances.
Zhur. VKHO 9 no. 2:129-138 '64. (MIRA 17:9)

ACCESSION NR: AP4033608 S/0032/64/030/004/0412/0413

AUTHORS: Bozhevol'nov, Ye. A.; Solov'yev, Ye. A.

TITLE: Rapid method for lead determination

SOURCE: Zavodskaya laboratoriya, v. 30, no. 4, 1964, 412-413

TOPIC TAGS: lead analysis, quantitative lead determination, fluorescent lead technique, lead chloride luminescence, freezing lead chloride, lead chloride complex, quartz mercury lamp PRK 4, UFS 2 filter

ABSTRACT: It was found that by freezing solutions containing lead chlorides their fluorescence was greatly enhanced, making it possible to determine (in liquid nitrogen) quantities within the 10^{-4} - 10^{-6}% range. A mixture of 1 ml of the analyzed solution and 0.1 ml HCl (sp. gr.1.19) was cooled with ice-Na Cl to -20C or with alcohol-dry ice to -71C. The luminescence of the frozen samples was then compared with standards under a quartz-mercury lamp PRK-4, with a UFS-2 filter. The samples were placed as close to the lamp as was possible. This method permitted the determination of 1 microgram of lead in 1 ml of the solution.

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ACCESSION NR: AP4033608

No interference was introduced by the presence of Na, K, Be, Mg, Ca, Sr, Ba, Zn, Al, Ga, Ti, Sn, Ta, Cr, Mn, Co, Ni, Bi, and Sb ions. Small concentrations of Fe and Cu, however, extinguished the fluorescence.

ASSOCIATION: Vsesoyuzny*y nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chisty*kh khimicheskikh veshchestv (All-Union Scientific Research Institute of Chemical Reagents and Specially Pure Chemicals)

SUBMITTED: 00 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 000

Card 2/2

L 49412-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(t)/EWP(b) Pr-4/Ps-4 IJP(c) JD/JG

ACCESSION NR: AP5009923 UR/0032/65/031/004/0508/0509

AUTHORS: Kreyngol'd, S. U.; Bozhevol'nov, Ye. A.; Sinyaver, L. G.

TITLE: An arrangement for recording the kinetics of reactions

SOURCE: Zavodskaya laboratoriya, v. 31, no. 4, 1965, 508-509

TOPIC TAGS: reaction kinetics, colorimetric analysis, curve fitting, least square method, reaction rate, reaction temperature, error measurement, density measurement / FEK M photoelectronic colorimeter, FEK N photoelectronic colorimeter, EPP 09 automatic recorder

ABSTRACT: A simple device based on a photoelectronic colorimeter was developed for recording reaction speeds with the help of colored indicator substances. A straight line is produced on the tape of the automatic recorder. The slope of this line is proportional to the speed of the reaction of the zero or the first order in accordance with the indicator substance. The system is most satisfactory when the coloration of the indicator substance decreases and the products are colorless. The setup consists of either an FEK-M or FEK-N photoelectronic colorimeter with an EPP-09 recorder. A 4-5 kohm variable resistor is connected in parallel with the input of the EPP-09, and the resistance is selected on the

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basis of the maximum optical density anticipated in the measurement. A solution is placed in both containers of the system, and an optical wedge is used for balancing the two light fluxes. The test solution is then placed in the right container, and the signal $i = k (I_l - I_r)$ is recorded on the automatic recorder (I_l and I_r are the light fluxes striking the left and the right photoelements). If the change in density is $< 40\%$, then i vs time is a line with only a slight curvature. The divergence of the points on the curve from the straight line constructed by the least square method is $< 2\%$ for both the zero order and the first order reactions. Thus, the adjusted experimental curve indicates the reaction speed. The method was checked for the reaction of iron determination with the use of dark-blue acid chrome (see Fig. 1 on the Enclosure). The reaction speed is proportional to the iron ion concentration, decreases in the the presence of multivalent cations, and rises with the increase of temperature and the H_2O_2 concentration (up to $\sim 10^{-4}$m). The sensitivity at 50C is 0.002 mkg/ml, and the relative error in the range 0.01 mkg Fe^{3+} is 7-10%. Figure 2 on the Enclosure shows the linear relationship of tangent α to iron. This method gave an iron determination in lanthanum oxide and in germanium tetrachloride with an error $\sim 15\%$. Orig. art. has: 2 tables and 2 figures.

L 49412-65

ACCESSION NR: AP5009923

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (All-Union Scientific Research Institute of Chemical Reagents and Extremely Pure Chemical Substances)

SUBMITTED: 00 ENCL: 02 SUB CODE: GC

NO REF SOV: 002 OTHER: 000

Card 3/5

BOZHICH M. B.

YUGOSLAVIA / Farm Animals. Honeybee. Q-5

Abs Jour: Ref Zhur-Biol., No 23, 1958, 105787.

Author : ~~Bozhich, M. B.~~
Inst : Not given.
Title : Ways of Propagation of the American Fowl Brood in Certain Places Along Western Morava (Yugoslavia).

Orig Pub: Napr. pchelarstvo, 1958, 15, No 1, 30-32.

Abstract: Honey extractors and presses are considered to be a source of propagation of disease. The honey extractors are often not washed and disinfected after use, and are left in the open to be cleaned by the bees.

BOZHICH, P. K.

USSR/Engineering
Ships — Machinery
Shipping

Jul 48

"The Book Shelf" 1 p

"Morskoy Flot" No 7

Recent good books are: P. P. Akimov's "Ship Power Equipment and Machinery," V. Ye. Lyakhnitskiy's "Planning River Ports," S. N. Grigor'yev's "Methods for Improving Shipping Service," P. K. Bozhich's "Sea Routes and Their Equipment," and "Handbook for the Port Captain

PA 25/49T20

BOZHICH, P. K. and DOMANEVSKIY, N. A.

"Control of Seacoasts and River Estuaries", Transzheldorizdat, Moscow-Leningrad, 1948, 314 pp. Textbook for nautical schools specializing in hydrulics.

BOZHICH, P. K., Prof. Dr. Tech. Sci.

"The Height Attained by a Wave Against a Sloping Structure," Morskoy Flot., 8, No.2, 1948

Moscow Wave Lab., River Fleet Admin.

[redacted]

[redacted]

TG330.E6[redacted]

BOZHICH

BOZICZ, P. K., DOMANIEWSKI, N. A.

"Regulacja wybrzezy morskich i ujść rzecznych" (Regulation of sea coasts and river mouths), by P. K. Bozicz, N. A. Domaniewski. Reported in New Books (Nowe Ksiazki), No. 15, August 1, 1955

BOZHICH, Sergey Petrovich; FIDMAN, B.A., doktor tekhn.nauk, retsenzent; MAKSIMOV, L.S., inzh., retsenzent; YEGOROV, S.A., doktor tekhn. nauk, nauchnyy red.; MAR'YANSKIY, L.P., red.; SOKOL'SKIY, I.F., tekhn.red.

[Statistical regularities of stationary random processes; based on the results of measuring pressure pulsation at the boundary of a turbulent flow] Nekotorye statisticheskie zakonomernosti statsionarnykh sluchainykh protsessov; po rezul'tatam izmerenii pul'satsii davleniia na granitse turbulentnogo potoka. Moskva, Vses.proektno-izyskatel'skii i nauchno-issl.in-t "Gidroproekt" im. S.IA.Zhuk, 1959. 24 p. (Tekhnicheskoe soobshchenie, no.7).

(MIRA 13:9)

(Fluid dynamics) (Probabilities)

BOZHIDAREVICH, Aleksandur

Influence of nutrient elements on the initial growth of the maize root system. Selskostop nauka 2 no. 3/4 359-363 '63.

BOZHIKOV, N.

Simulaneous Boiling and Dyeing of Silk. Leka Promishlenost (Light Industry), #2:13: Feb 55

BOZHIKOV, N.

Simultaneously boiling and tinting silk fabrics. p. 13.
LEKA PROMISHLENOST, Sofiya, Vol. 4, no. 2, 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955, Uncl.

BOZHILOV, Angel, Inzh.

Automatic rotor lines, and complex automation of machine-construction processes. Tekhnika Bulg 13 no.5:24-26 '64

Božilov, Boris. Transverse vibrations of a string with varying density. Trudy Vysšego Inst. Narod Hozyaistva Staline. Inž.-Stroitel. Fak. 1 (1954), 67–86. (Bulgarian. Russian summary)

The author considers a string stretched along the x axis between two fixed points with the usual assumptions connected with small transverse displacements. The density of the string is a continuous function of x. He derives first a Fredholm integral equation which he solves for a special case when the density is a quadratic function of x, obtaining three modes and three characteristic frequencies. Then he transforms the Fredholm equation into a Volterra integral equation and solves it again for the same special case. *T. Leser* (Aberdeen, Md.)

TSONEV, TS.; MATEEV, M.; SLAVKOV, Il.; BOZHILOV, B.

Etiology and epizootiology of salmonellosis and pullorosis in chickens in the districts of Varna and Kolarovgrad. Izv Vet inst zaraz parazit 7 43-56 '63.

BOZHILOV, B.

Isolation of Salmonella give from chicks. Izv Vet inst zaraz parazit 7 91-93 '63.

BULGARIA

Dr Bozhil BOZHILOV, Regional Veterinary Station (RVS=Raionna veterinarna stanitsa), Khaskovo, and Dr V. MITEV, Veterinary Practitioner (veterinaren lekar)

"Poisoning of Lambs with the Weed Lolium temulentum."

Sofia, Veterinarna Sbirka, Vol 59, No 10, 1962; pp 19-20.

Abstract: Epidemic poisoning in 150 lambs, with symptoms 12 to 18 hours after consuming feed ration of 200 Gm. of cereal grains, later found to contain 18% of "oat-like" seeds of Lolium temulentum: general signs of depression, lassitude, diarrhea, thirst. Recovery after symptomatic treatment. Experimental feeding duplicated symptoms. No fatalities.

1/1

PETKOV, Iordan, inzh.; BOZHILOV, Grozdan, inzh.

Construction of the roof of the main building of the Maritsa-Iztok I Thermoelectric Plant. Stroitelstvo 11 no. 3:1-7 My-Je '64.

BOZHILOV, I.

"National Spartakiad of Workers in Health and Welfare." p. 4,
(ZDRAVEN FRONT, No. 40, Oct. 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

BOZHILOV, IA.

TECHNOLOGY

Periodicals: ELEKTROENERGIIA. Vol. 9, No. 8, Aug. 1958.

BOZHILOV, IA. An experiment for automation of some heat-producing processes in boilers with grates for coal burning. p. 24.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4, April 1959, Unclass.

BARAROV, Deian, inzh.; BOZHILOV, IAnko, inzh.

Use of selsyns in the hydroelectric-power staticns. Elektroenergiia 13 no.4:17-20 Ap '62.

1. Elektroproizvodstvo, Plovdiv.

BOZHILOV, IA.

"Method of thermotechnical testing of steam-turbine installations."

ELEKTROENERGIIA, Sofiia, Bulgaria, Vol. 9, no. 10/11, Oct./Nov. 1958.

Monthly List of East European Accessions Index (EEAI), The Library of Congress, Volume 8, No. 8, August 1959.

Unclassified

BARAROV, D., inzh.; BOZHILOV, IA., inzh.

Automation of the small hydroelectric power stations on the territory of the Plovdiv Electric Power Plant. Elektroenergiia 14 no.1:22-26 Ja '63.

BOZHILOV, Iordan

On the improvement of indexes for the categorization of enterprises.
Trud tseni 4 no.3:1-13 '62.

BOZHILOV, Iordan

Character of the work of those employed in the management of an industrial enterprise. Trud tseni 5 no. 9: 36-45 '63.

BOZHILOV, Iordan

Problems of and additional material incentive of those employed in the management of industrial enterprises. Trud tseni 6 no. 2:60-70 '64.

BOZHILOV, Iordan

Distribution according to the work, a basic principle in the organization of labor wages in Bulgaria. Trud tseni 6 no.7:35-44 '64.

BULGARIA

BOZHILOV, K., [Affiliation not given.]

"Autohemotherapy in Placental Retention and Acute Puerperal Endometritis."

Sofia, Veterinarna Sbirka, Vol 60, No 6, 1963; p 21.

Abstract: Good results in treating with autohemotherapy placental retention and endometritis in cows over 15 years: 100, 110 and 100 mL blood are removed from the jugular vein on 3 successive days, and each time immediately re-injected into several spots in the gluteal region. In sheep or goats, the doses are 20, 25 and 20 ml. of blood respectively. Author thus treated 75 cows, 52 sheep, 24 goats: no details about results except that 2 goats died.

1/1

BOZHKOV, N.

BULGARIA

KORUKOV, Georgi, Dr, and BOZHILOV, Nikola, Dr [Affiliation not given.]

"Parasitism by Dictyocaulus arnfieldi in Horses and Donkeys in Bulgaria."

Sofia, Veterinarna Sbirka, Vol 60, No 6, 1963; pp 15-16.

Abstract : Report of identification of this bronchopulmonary parasite in donkeys and horses in inspected cadavers originating from 3 separate farms in the Blagoevgrad area, first report in Bulgaria. Although these ungulates are rapidly decreasing in economic importance due to progressive mechanization, they are valuable animals; exhortations.

1/1

BOZHILOV, P.

The SVOGE (Bulgaria) Anthracite and Its Importance in the Coal Balancing Economy of Our Country. Minno Delo (Mining), #2:16:Feb 55

BOZHILOV, S.

"Material and Operative Factory Accounting in the Wool Industry." p. 4, (LEKA PROMISHLENOST, Vol. 3, No. 1, 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4 No. 5, May 1955, Uncl.

BOZHILOV, T.; MALINOV, E.

"Standarization and payment of wages in the mineral-resource industry with reference to improvement of the ore quality."

MINNO DELO, Sofiia, Bulgaria; Vol. 14, No. 1, Jan./Feb., 1959

Monthly list of East European Accessions Index (EEAI), Library of Congress, Vol. 8, No. 8, August, 1959

Unclassified

KHRISTOV, I., kand. tekhn. nauk; MALINOV, Ye., gornyy inzhener; BOZHILOV, T., gornyy inzhener; MUTAFCHIYEV, I., geolog

Methodology of determining the unavoidable impoverishment of ores in breaking them in vein deposits. Gor. zhur. no.11:31-35 N '62. (MIRA 15:10)

1. Bolgarskiy gorno-geologicheskiy institut (for Khristov).
2. Bolgarskiy komitet promyshlennosti (for Malinov, Bozhilov, Mutafchiyev).

(Bulgaria—Mining engineering)

KADANOV, D.; BOZHILOV, V.

Embryonic development of the tast buds in the human tongue. Izv Inst morf BAN 4:143-148 '61.

(TONGUE) (TASTE)

KADANOV, D.; BOZHILOV, Vl.

Development of nerve fibers and receptors in the skin of man.
Izv Inst morf BAN 9/10:37-47, '64.

GIUROVSKI, A.; BOZHILOV, V.

Embryonal development of the neuromuscular spindles in the musculature of the human forearm. Nauch. tr. vissh. med. inst. Sofia 41 no.1:67-83 '62.

1. Predstavena ot prof. D. Kadanov.
(MYONEURAL JUNCTION) (FOREARM) (EMBRYO)

BOZHILOV, Vl.Vl. (Sofiia)

Development of Vater's corpuscles in the skin and the connective tissue around the limb muscles and joints of human embryos. Izv. Inst.morf.BAN 3:131-140 '59. (MEAI 9:5)
(BLOOD) (SKIN) (EXTREMITIES (ANATOMY)) (EMBRYOLOGY)

KADANOV,D., prof.; BOZHILOV,Vl.,d-r.

"Structure of the peripheral nervous system in the embryoegenesis of man" by D.M. Golub. Reviewed by D.Kadanov and Vl.Bozhilov. Spisanie BAN 8 no.2:98-100 '63

KADANOV, Dimitur, d-r, prof.; MUTAFOV, Stefan, d-r; BOZHILOV, Vladimir, d-r

Application of anthropological standardization in the light industry in Bulgaria and abroad. Tekstilna prom 13 no.6:23-25 '64.

1. Corresponding Member of the Bulgarian Academy of Sciences.

GYUROVSKIY, A.; BOZHILOV, V.

Embryonic development of neuromuscular spindles in the forearm musculature in man. Arkh. anat., gist. i embr. 48 no.5:55-60 My '65. (MIRA 19:1)

1. Kafedra normal'noy anatomii cheloveka (zav. - chlen-korrespondent Bolgarskoy Akademii Nauk prof. D. Kadanov) Sofiyskogo vysshego meditsinskogo instituta. Submitted January 29, 1961.

BOZHILOV, Yanko, inzh.

Determination of the efficiency of hydraulic turbines using semiconductors (thermistors). Izv. vys. ucheb. zav.; energ. 6 no.3:83-90 Mr '63. (MIRA 16:5)

1. Plovdivskiy tekhnologicheskiy institut pishchevoy promyshlennosti, Narodnaya Respublika Bolgarii.
(Hydraulic turbines)

BOZHILOVA, E.

Pollen morphology of the Bulgarian representatives of Pinus L.
Godishnik biol 56 no.1:119-141 '61-'62 [publ. '63].

BOZHILOVA, Elisaveta

Woolly mullein (Verbascum pannosum). Priroda Bulg 12 no. 6:84-85 N-D '63.

KHANDZHIEV,Sv.; DANOVA,T.; MIROCHNIK,M.; STOILOV,L.; ISTATKOV,N.
BOZHILOVA,L. IORDANOVA,A.

Cardiac changes in hypertension. Nauch.tr.vissh.med.inst.
Sofiia 42 no.5:43-55 '63.

1. Iz kruzhoka po propedevtika na vutreshnite bolesti;nauchen
rukovoditel: dr. V.Oreshkov.

*

BOZHINOV, B.

The reactive oil centrifuge in the D-54 engine. p.23
MASHINIZIRANO ZEMEDELIE. (Ministerstvo na zemedelieto)
Sofiya. Vol. 7, No.3, Mar. 1956

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 5, No.11, November 1956

BOZHINOV, B.

"Question on the first density of forest plants."

p. 334 (Gorsko Stopantovo. Vol. 13, no. 7. Sept. 1957, Sofia, Bulgaria)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7. No. 2, February 1958

KREMAKOVA, Bozhana, inzh.; BOZHINOV, Bozhidar, inzh.

Use of loess cement in hydraulic engineering. Khidrotekh i melior 9 no. 3:80-81 '64.

BOZHINOV, Bozhin, uchitel

Practical and regular work in the experimental natural science field. Biol i khim 4 no.5:31-34 '61.

1. Uchilishte "Khr. Botev", gr. Pomorie.

(Agriculture) (Biology)

BOZHINOV, B.B

BULGARIA/Chemical Technology. Chemical Products and Their Application. Crude Rubber, Natural and Synthetic. Vulcanized Rubber. H-31

Abs Jour: Referat Zhur-Khimiya, No 5, 1958, 16409.

Author : Koyev D. V., Bozhinov B. B.
Inst : Bulgarian Academy of Sciences.
Title : Experiments on Production of Vegetable Gutta-Percha from Local Raw Materials.

Orig Pub: Izv. In-ta za gorata. B"lg. AN, 1957, 2, 309-344.

Abstract: As raw materials for industrial production of gutta-percha (G) three wild species of evonymus which occur in Bulgaria are reported to be suitable: Ev. verrucosa Scop., Ev. europea L., and Ev. latifolia Scop. For the establishment of plantations it is necessary to determine the most productive species of evonymus among those that occur in different parts of the country. The technology of G extrac-

Card : 1/2

BOZHINOV, B., inzh.

Soil resistance to shearing stress during the consolidation period. Stroitelstvo 10 no. 6: 12-15 N-D '63.

1. Nauchnoizsledovatelski stroitelen institut.

BOZHINOV, Maksim

A new method for the mass production of cotton hybrid seeds.
Selskostop nauka 2 no. 3/4 364-370 '63.